US005577960A

United States Patent [19]

Sasaki

[11] Patent Number: 5,577,960

[45] Date of Patent: Nov. 26, 1996

[54] **IMAGE SYNTHESIZING SYSTEM AND GAME PLAYING APPARATUS USING THE SAME**

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[21] Appl. No.: **379,679**

[22] PCT Filed: **Jun. 10, 1994**

[86] PCT No.: **PCT/JP94/00943**

§ 371 Date: **Jun. 26, 1995**

§ 102(e) Date: **Jun. 26, 1995**

[87] PCT Pub. No.: **WO94/29813**

PCT Pub. Date: **Dec. 22, 1994**

[30] **Foreign Application Priority Data**

Jun. 10, 1993 [JP] Japan 5-166495

[51] **Int. Cl.**[6] **A63F 9/24**

[52] **U.S. Cl.** **463/32**; 463/31; 395/128

[58] **Field of Search** 395/152, 130, 395/128, 125, 122; 463/32, 31

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[57] **ABSTRACT**

A real-time display type image synthesizing system which can display a 3-D object with less polygons and with high resolution is provided.

The 3-D object data is stored in a 3-D object data storage unit **26** as shape models having different degrees of precision. The closer the 3-D object is to the view point in the view-point coordinate system, the object data of the shape model of higher precision is read out.

Texture information applied to each polygon in each of the shape models is stored in a texture information storage unit **32** as image information of different resolution for every shape model and for every polygon in the shape models.

An image forming unit **34** maps the texture information of precision corresponding to each polygon in the 3-D object perspectively projected and output by a 3-D calculation unit **22** onto the respective polygons to synthesize and display an image on a display **40**.

18 Claims, 11 Drawing Sheets